Sub Regional RTEP Committee: Western Dayton Supplemental Projects

May 21, 2021

Needs

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Dayton Transmission Zone M-3 Process
Auglaize County, Ohio

Need Number: Dayton-2021-004
Process Stage: Needs Meeting
Date: 5/21/2021

Supplemental Project Driver(s):
Requested Customer Upgrade, System Configuration Improvements, Operational Performance

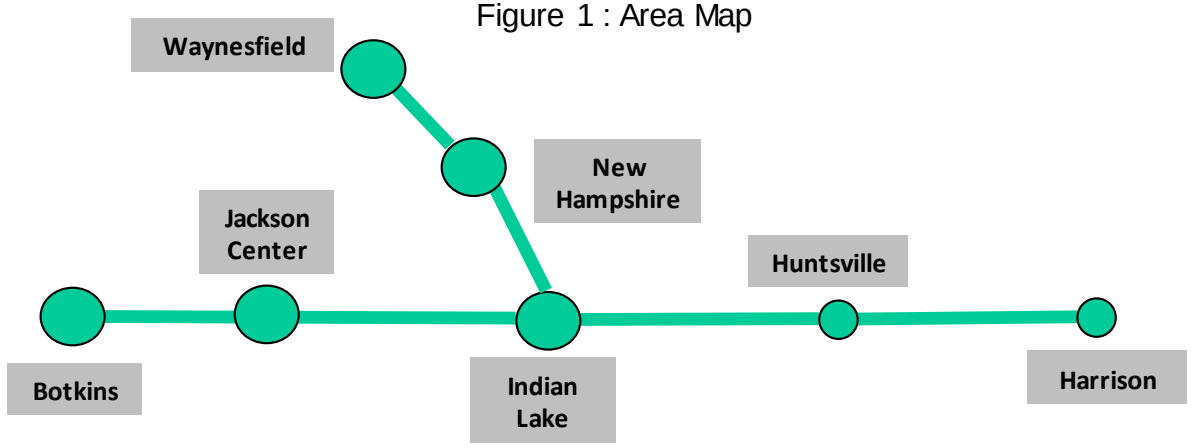
Specific Assumption Reference(s):
DP&L 2021 RTEP Assumptions, Slide 5

Problem Statement:

- AES Ohio Distribution has requested a new 69kV delivery point to provide a new source on the North side of Indian Lake. The new source will help ensure load developing on the North side lake can be reliably served.

- Indian Lake – Waynesfield 33kV circuit
  - The line was primarily constructed in the 1930s with wooden cross arm construction and is located near railroad ROW which makes access challenging during outage restoration.
  - Over the last three years, the 10.3-mile Indian Lake – Waynesfield 33kV circuit has experienced 17 forced outages.
    - 8 permanent outages were primarily caused by insulator, cross arm, primary wire, station equipment, pole failure, and a tree from outside the ROW.
    - 9 momentary outages were primarily caused by lightning, animals, galloping, and insulator flashover.
  - The currently line serves two existing delivery points, New Hampshire (AES Ohio) and Waynesfield Municipal Electric.
  - 33kV systems are not standard on the AES Ohio system and spare/replacement parts are limited since this is one of the last remaining 33kV facilities on the system.

Figure 1 : Area Map



Need Number: Dayton-2021-005

Process Stage: Need Meeting 05/21/2021

Project Driver:

Operational performance

Specific Assumption Reference:

Dayton Local Plan Assumptions (Slide 5)

Problem Statement:

- The line 6915 from Wilmington-Columbus Street is a 2.60-mile radial 69kV transmission line (6915) was primarily constructed using wood pole, cross-arm and brace design in 1978. The line 6915 provides transmission and distribution level service to 5190 customers in Clinton county totaling approximately 35MW of load. A fault occurring anywhere on this line will result in the permanent outage to all 5190 customers. The line has experienced 6 outages (6 momentary) since 2016.

- The line 6917 from Wilmington to Caesars Creek is a 9.24-mile-long line, primarily constructed using wood pole, cross-arm and brace design in 1978, has seen 11 outages (6 permanent, 5 momentary) over the last 5 years. A fault occurring anywhere on this line will result in the permanent outage to all 2120 customers.

- The line 6637 (23 miles) from Washington CH to Wilmington constructed in 1967 is also wood pole, cross-arm brace design and has seen 13 outages in the last 5 years. The line has limited protection, there are existing sectionalizing switches at Sabina to help reduce outage time, but the switches have not operated reliably during outage conditions due to alignment issues and any fault will result in dropping the load at Sabina (13 MVA, 2664 customers) and Airpark (16MVA, 1171 customers).

- The line 6673 (1.97 miles) constructed in 1974, from Wilmington to Clinton is also wood pole, cross-arm brace design and has seen 1 permanent outage in the last 5 years.

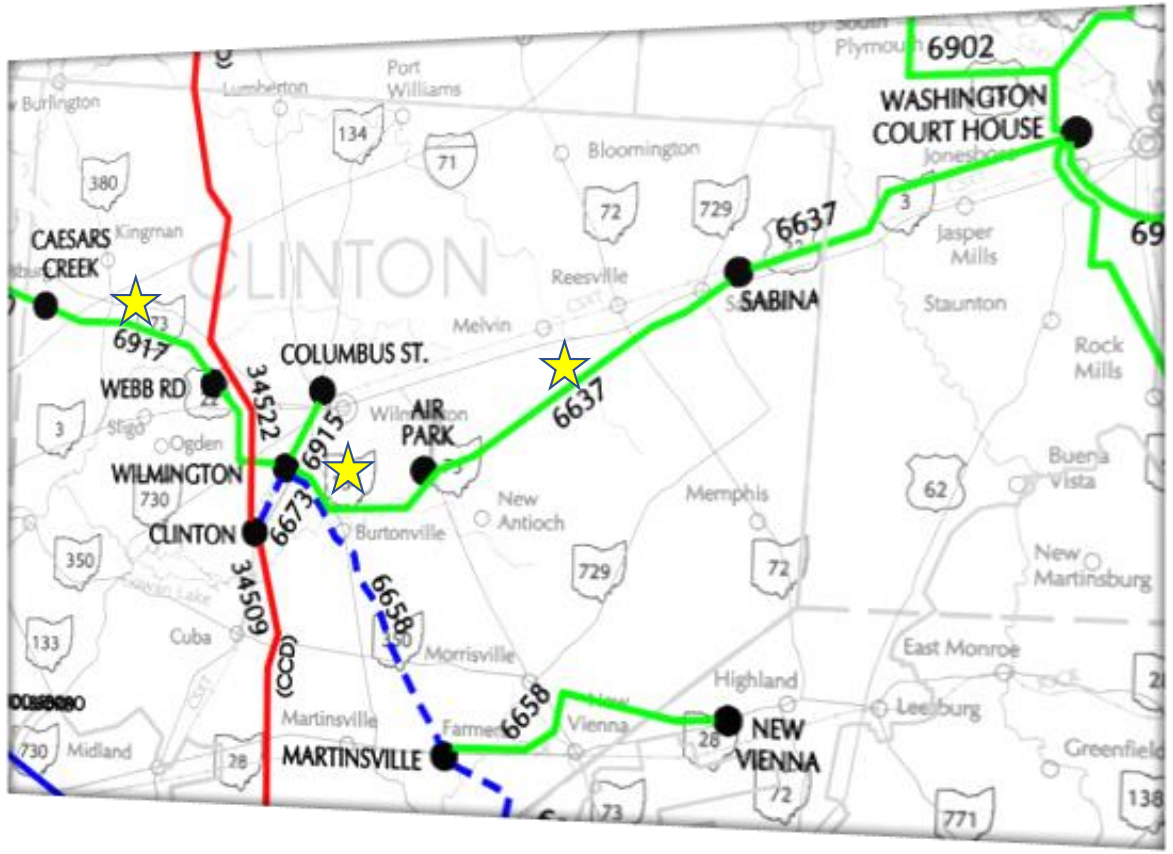


Figure 1 : Area Map

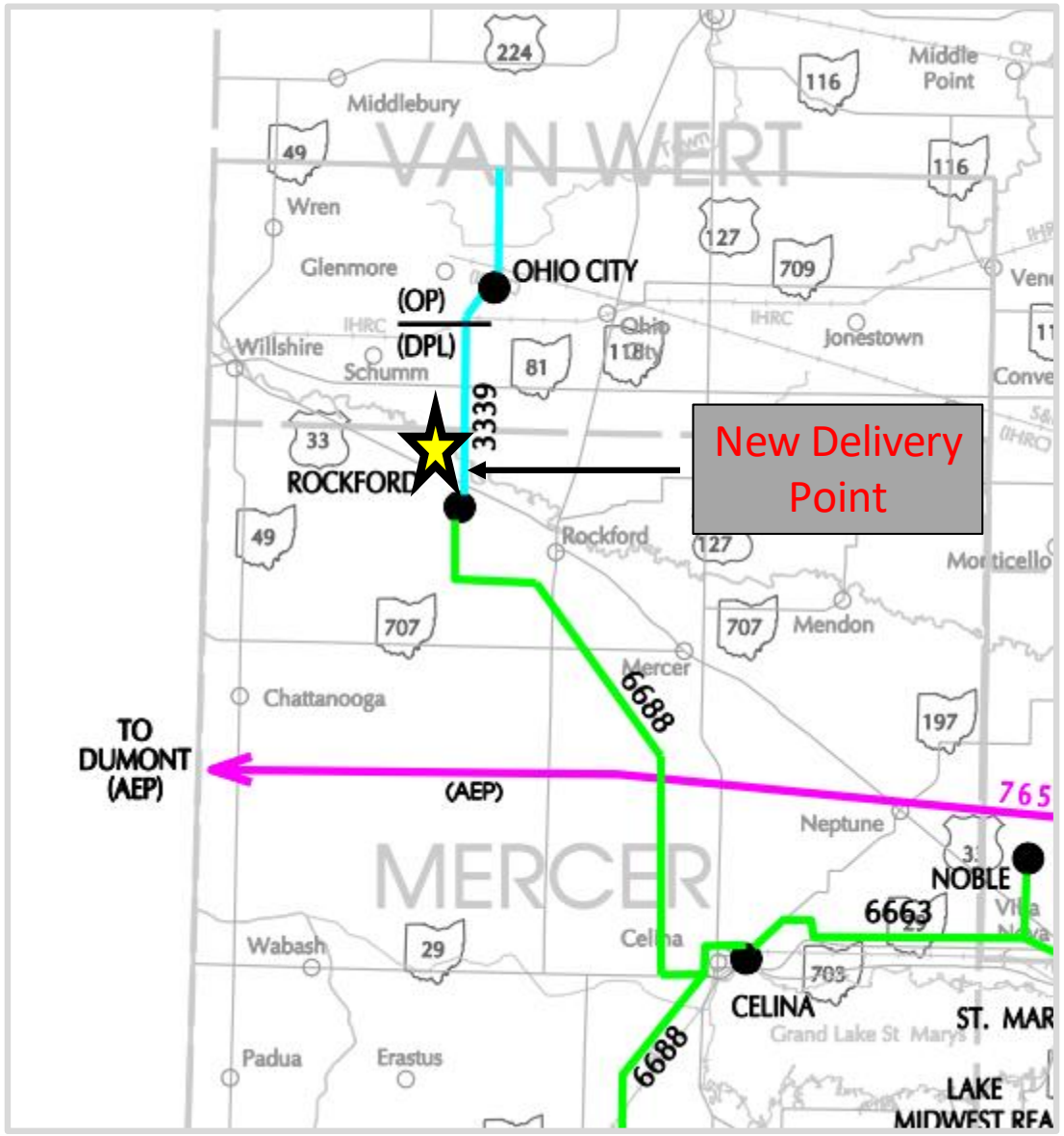
Need Number: Dayton-2021-006
Process Stage: Needs Meeting
Date: 5/21/2021

Supplemental Project Driver(s):
Requested Customer Upgrade

Specific Assumption Reference(s):
DP&L 2021 RTEP Assumptions, Slide 5

Problem Statement:

- Buckeye Power on behalf of Midwest Rural Electric has requested a new 69kV delivery point located north of the Rockford 69kV substation.
    - This current transmission line in the area is normally open but will be closed and converted in 2025 to a normally closed 69kV tie to Ohio Power's Ohio City Substation in 2025.
    - The new delivery point will be located north of the existing Rockford substation.
    - The expected load at the new delivery point is expected to be approximately 2MW.



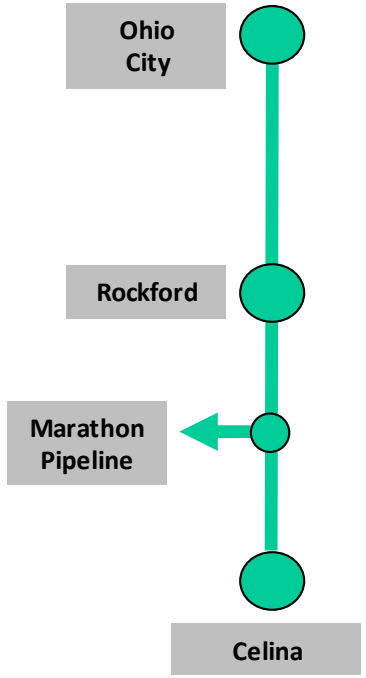


Figure 1 : Area Map

Need Number: Dayton-2021-007
Process Stage: Needs Meeting
Date: 5/21/2021

Supplemental Project Driver(s):
Requested Customer Upgrade, Operational Performance

Specific Assumption Reference(s):
DP&L 2021 RTEP Assumptions, Slide 5

Problem Statement:

- Buckeye Power on behalf of Pioneer Rural Electric has requested a new delivery point located south of the Sidney – Amsterdam 69kV line.
    - New delivery point is expected to serve approximately 4MVA of load.
- McCartyville Substation
    - The existing substation is comprised of wood construction and is showing significant signs of deterioration.
    - Recent failures of the 69/12kV distribution transformer has led AES Ohio to request for upgrades and/or mitigations for the McCartyville substation condition issues.
    - McCartyville is currently served via a looped configuration with manual inline switches

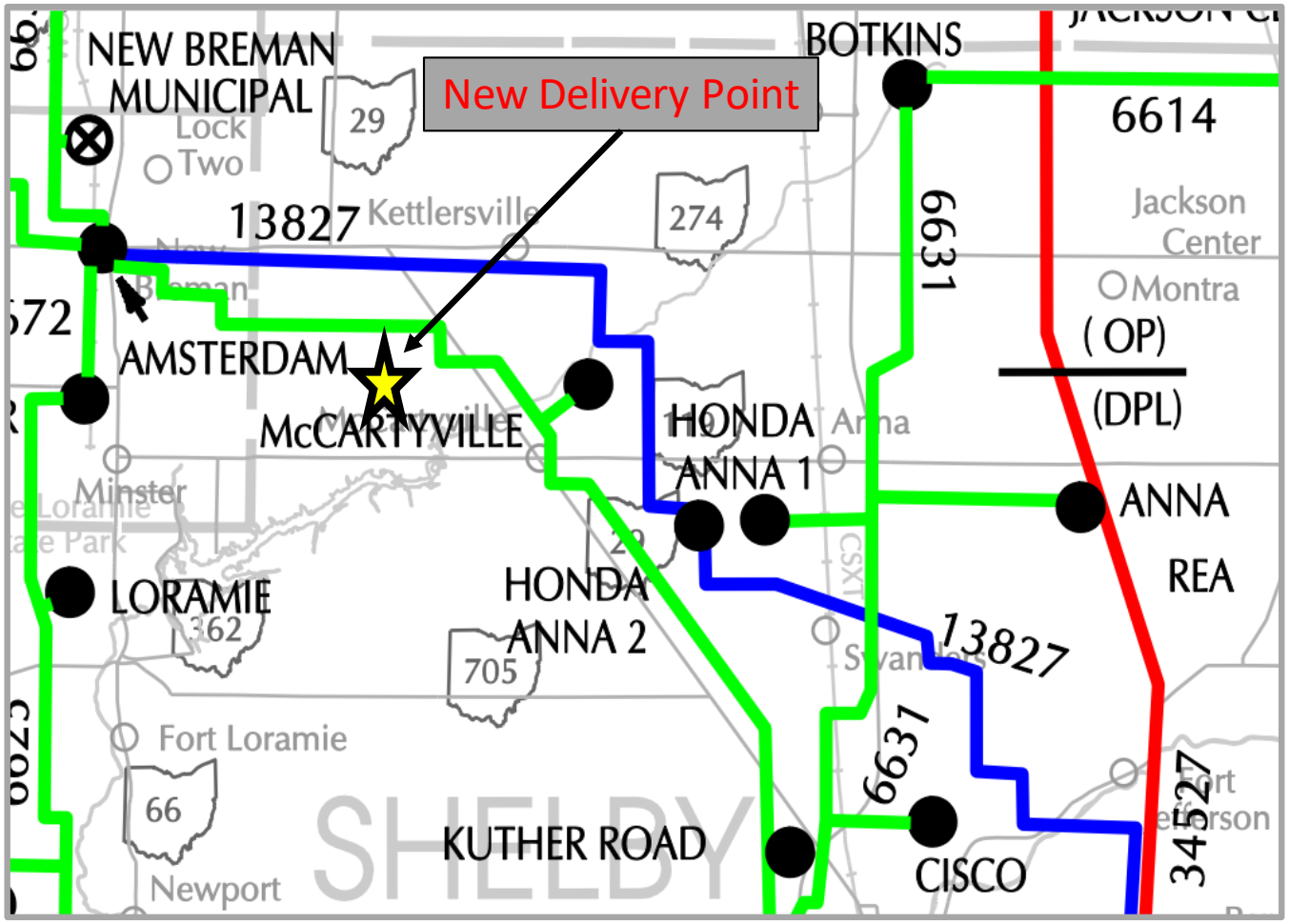
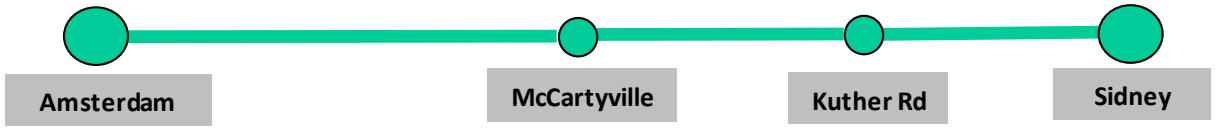


Figure 1 : Area Map



Need Number: Dayton-2021-008
Process Stage: Needs Meeting
Date: 5/21/2021

Supplemental Project Driver(s):
Requested Customer Upgrade

Specific Assumption Reference(s):
DP&L 2021 RTEP Assumptions, Slide 5

Problem Statement:

- Buckeye Power on behalf of Darke Rural Electric has requested a new delivery point located north of the 3302 line which connects the New Westville and Garage Road Substations. The expected load at the new delivery point is expected to be approximately 2MW.

- AES Ohio Distribution has received a request to serve a new 7MVA load in the vicinity of the existing Lewisburg substation.

- The following needs previously presented will be taken into consideration during the development of solutions to meeting the submitted request:
  - DP-2020-011: Need presented on 12/18/2020
    - 20201218-dayton-supplemental-projects.ashx (pjm.com)
  - DP-2021-001L Need presented on 2/17/2021
    - 20210217-dayton-supplemental-projects.ashx (pjm.com)

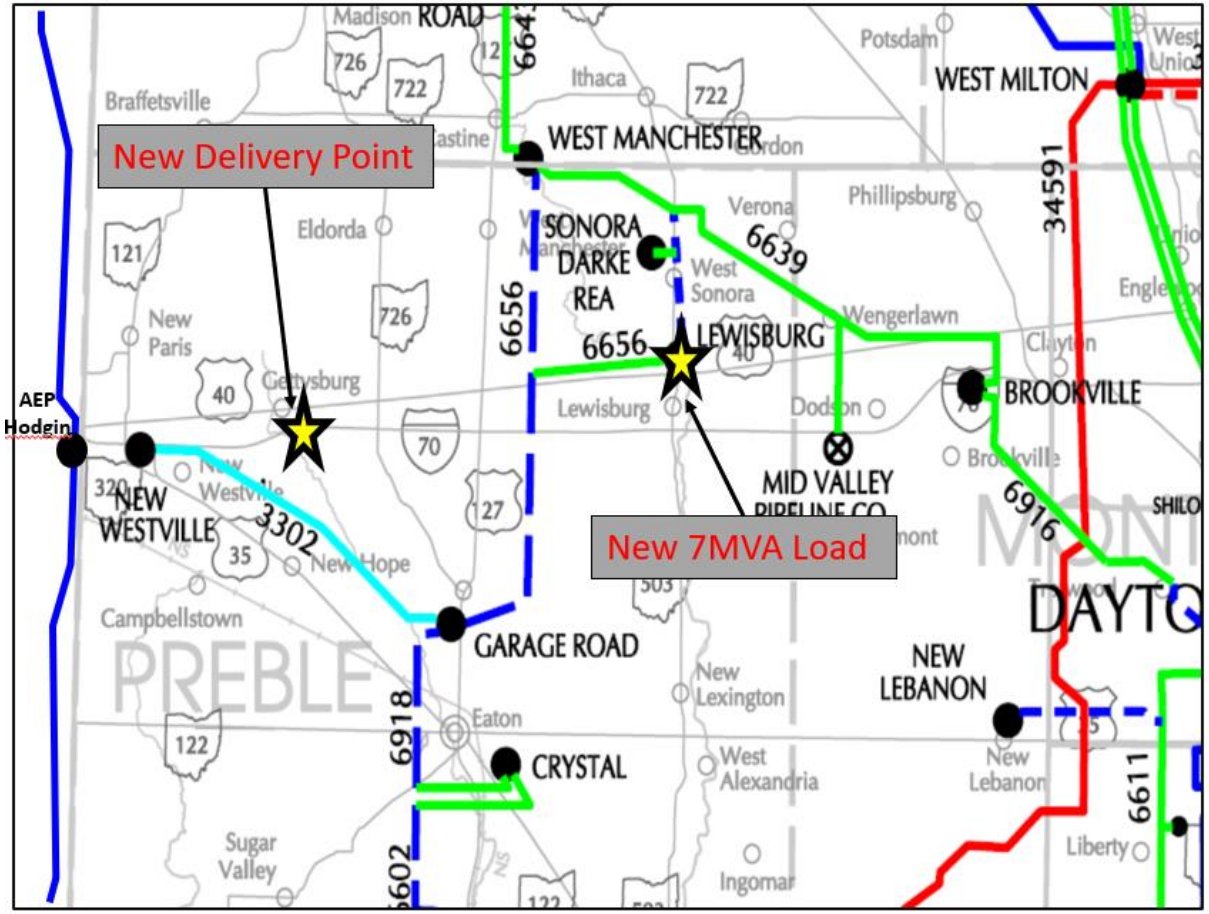


Figure 1 : Area Map

Appendix

High Level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

5/11/2021 – V1 – Original version posted to pjm.com